

# Sunk Costs and Leases

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A fixed cost can be broken up in to a sunk (unavoidable) and unsunk (avoidable) component. AC=average total costs includes both. AAC=average avoidable costs includes variable and unsunk fixed costs. Let's talk through an example of sunk costs.

A cost is sunk if its unrecoverable,i.e., its there no matter what you do. The time cost in education is a sunk cost. So, suppose you graduated from UCD with a degree in Marxist economics and had trouble finding a job. No matter what you do after you graduate from UCD, you can't get your 4 years back. A cost is not sunk if you could do something to recover it,e.g., the cost of a textbook on Marxist economics is not sunk before the drop deadline. Part of the cost of a textbook is sunk after the drop deadline.

## 0.0.1 Sunk Cost and Bargaining

Suppose further that some English department (they are the only departments that regularly teach Marxist economics) approached you and offered you \$25,000/year to teach Marxist economics. You balk at first and say, "That's ridiculous! I could have taken industrial organization courses and gotten a job for \$50,000/year!" But, then they say, "That doesn't matter because that cost is sunk. You are lucky we didn't offer you \$1 a year. Take it or leave it! Your outside option is the street, not \$50,000/year."

If a cost is sunk, there is nothing you can do to recover it. Thus, it is irrelevant to whether you accept or reject the offer, since the cost will be there, regardless of whether or not you accept the offer. Sunk costs are irrelevant for calculating economic profits—once they are sunk.

In bargaining situations, the lowest offer your opponent will accept is her outside option from rejection. It's probably easiest to understand the working of sunk costs in bargaining situations by explicitly calculating a player's payoff from rejecting an offer.

## 0.0.2 Leases and Sunk Costs

As most of you who have signed leases for your apartment know, a lease commits you to a series of payments. Suppose you signed a lease for a year on a \$1000/month place. If you can't break that lease, you have sunk  $\$12 \cdot 1000$ . A

lease forces you to commit to a series of payments at the beginning, so the whole series becomes sunk. Suppose after 3 months, you find an identical apartment for \$400/month. Should you take it, you would have to spend \$1400 for an identical place. What if you could sublease your current place to someone else for \$550? Then, this \$550 becomes unsunk. Now, only  $\$450 \cdot 12$  is sunk. This is the equivalent of a  $\$450 \cdot 12$  lease breaking charge, ie, you would have to pay it no matter what you did. But, if you stayed, you would have to pay  $\$550 \cdot 12$  on top of that. If you moved, you would only have to pay  $\$400 \cdot 12$  more. How low would a competing apartment complex have to charge if they knew that you could only break your lease if you paid a  $\$450 \cdot 12$  penalty? They would have to offer you the identical place for less than the *unsunk* portion of the rent that you pay now,  $(1000 - 550) \cdot 12$ . Just like the above, only the *unsunk* costs matter in any decision.